

MTGY0001-101  
SERIAL NO.: 10/752,791

PATENT  
FILED: January 7, 2004

AMENDMENTS TO THE CLAIMS:

Please cancel claims 8-30 without prejudice.

Please add claims 31-42.

Please amend claims 1 and 6 as follows:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (currently amended) An isolated nucleic acid molecule encoding a protein comprising an amino acid sequence comprising at least 70% sequence identity to SEQ ID NO: 2, wherein the protein has pro-oxidant activity. ~~An isolated nucleic acid molecule selected from the group consisting of: (a) an isolated nucleic acid molecule that encodes the amino acid sequence of SEQ ID No. 2; (b) an isolated nucleic acid molecule that encodes an exon 3 deleted MnSOD; (c) an isolated nucleic acid molecule which comprises SEQ ID No.1; (d) an isolated nucleic acid molecule complementary to SEQ ID No. 1; (e) an isolated nucleic acid molecule that encodes an exon 3 deleted MnSOD and comprises the nucleic acid sequence set forth in SEQ ID NO:3; and (f) an isolated nucleic acid molecule that encodes an exon 3 deleted MnSOD comprising the amino acid sequence set forth in SEQ ID NO:4.~~

2. (original) An isolated nucleic acid molecule ~~consisting of the sequence of~~ comprising at least 97% identity to SEQ ID NO: 1.

3. (original) The isolated nucleic acid molecule of any of claims 1 or 2, wherein said nucleic acid molecule is operably linked to one or more expression control elements.

4. (original) A vector comprising an isolated nucleic acid molecule of any of claims 1 or 2.

5. (original) A host cell comprising a vector of claim 4.

6. (currently amended) [[A]] The host cell of claim 5, wherein said host cell is selected from the group consisting of a prokaryotic host cell and a eukaryotic host cell.

7. (original) A method of producing a polypeptide, comprising the step of culturing a host cell transformed or transfected with a nucleic acid molecule of claim 1 or 2 under conditions in which the polypeptide encoded by said nucleic acid molecule is expressed.

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8-30. (canceled)

31. (new) The isolated nucleic acid molecule of claim 1, wherein said encoded ~~poly~~peptide comprises SEQ ID NO: 4.

32. (new) The isolated nucleic acid molecule of claim 1, wherein said encoded ~~poly~~peptide comprises SEQ ID NO: 2.

33. (new) The isolated nucleic acid molecule of claim 1, wherein said isolated ~~nucleic~~ acid molecule comprises a nucleic acid molecule comprising at least 70% identity to SEQ ID NO: 1.

34. (new) The isolated nucleic acid molecule of claim 1, wherein said isolated ~~nucleic~~ acid molecule comprises a nucleic acid molecule comprising at least 97% identity to SEQ ID NO: 1.

35. (new) The isolated nucleic acid molecule of claim 1, wherein said isolated ~~nucleic~~ acid molecule comprises SEQ ID NO: 3.

36. (new) The isolated nucleic acid molecule of claim 1, wherein said nucleic acid molecule comprises SEQ ID NO: 1.

37. (new) The isolated nucleic acid molecule of claim 1, wherein said pro-oxidant activity is nonspecific mtDNA oxidative damage.

38. (new) An isolated nucleic acid molecule complementary to the isolated ~~nucleic~~ acid molecule of claim 1.

39. (new) The isolated nucleic acid molecule of claim 34, wherein said nucleic acid molecule is complementary to SEQ ID NO: 1.

40. (new) The vector of claim 4, wherein said vector is a plasmid or a viral vector.

41. (new) The isolated nucleic acid molecule of claim 2, wherein said nucleic acid molecule comprises SEQ ID NO: 3.

42. (new) The isolated nucleic acid molecule of claim 2, wherein said nucleic acid molecule comprises SEQ ID NO: 1.